

SCIENCE & EDUCATION Impact

Benefits from USDA/Land-Grant Partnership

Satisfaction Guaranteed

If consumers want it, they get it.

Consumers want foods that are high in quality, delicious, nutritious and healthful. Producers and processors are responding to those demands with the help of USDA/Land-Grant expertise.

Payoff

- **Better berries.** Since the 1960s, **Arkansas** researchers have been developing improved blackberry varieties to help producers meet consumer demand. Shawnee, a 1983 release, is the most widely planted erect-type blackberry variety in the United States and is expected to be overshadowed by Chickasaw, a 1998 release with larger fruit size.
- **Under wraps.** Researchers at **Colorado State** cover vegetable seedbeds with a lightweight plastic film that controls soil temperature, moisture and weeds. Plants are watered with tubes under the plastic that deliver precise amounts of water. Cantaloupe harvest was advanced by up to 26 days and yield increased by up to 50 percent and has the potential to net growers \$14,000 to \$16,000 from consumers eager for their first taste of the season. The system uses less water, less fertilizer, fewer pesticides, less labor and limits environmental impacts from irrigation run-off. **Georgia** researchers are studying similar systems.
- **Marketing help.** Experts from **Purdue** helped Indiana vegetable producers adopt techniques like pre-cooling, custom grading and packaging and shipping to order. As a result, sales of tomatoes, watermelon, sweet corn and muskmelon are now at \$39 million compared to \$23 million in 1992.
- **A cherry idea.** Cracking in sweet cherries causes millions of dollars in losses because of reduced quality. **Michigan State** researchers worked with colleagues in **Washington** and **California** to develop a system for applying a calcium chloride solution to cherry orchards during rainstorms when most cracking occurs. The \$1,500 cost of a computer and the \$600 per acre of automated sprinkler hardware are far less than the cost of \$10,000 to \$15,000 per acre cost of protective blankets.

RESEARCH,
EXTENSION AND
EDUCATION
AT WORK

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- **Apple treats.** The Honeycrisp apple variety developed by **Minnesota** researchers can be stored under refrigeration for two to four times as long as other varieties. Honeycrisp also has excellent flavor and texture. More than 100,000 Honeycrisp trees have been sold.
- **Eggstra special.** Researchers in **Nebraska** developed an efficient system for producing eggs that are high in omega-3 fatty acids, a form of fatty acid that has been shown to reduce heart disease. Eating two of the eggs a day can reduce the amount of serum triglycerides in a person's blood by 14 percent. **Wisconsin** researchers developed a system for producing eggs that are 25 percent lower in fat and cholesterol. A company that licensed the method sold more than 36 million eggs in 16 states in 18 months.
- **No-spit melons.** As a result of **Delaware** research and demonstrations, seedless watermelon production in the state grew from zero to 630 acres in the past six years. At a four-cents-per-pound premium for seedless watermelons, the result is a \$2 million boost in farm income.
- **Bison boom.** Thanks in part to research at **North Dakota State** on bison production and on nutrients in bison meat, North Dakota is home to about 35,000 bison in commercial herds valued at \$75 million—about 10 percent of the nation's total commercial bison herd. The state is also home to the headquarters of the North American Bison Cooperative which processes more than half of the bison meat sold worldwide—all under quality standards developed at North Dakota State.
- **Better beef.** A national beef quality audit indicates that excess fat, blemishes, insufficient marbling, inconsistent cut sizes and other undesirable traits reduce customer satisfaction with beef. **Texas A&M** Extension helps Texas cow-calf producers trace the performance of their calves from the time they leave the ranch, through the feedlot and on to slaughter. About 38 percent of participants changed their herd health program and 43 percent changed their sires to improve feedlot performance or carcass quality. **Oklahoma, Ohio** and other states also have programs that help beef producers market cattle that produce higher quality products for consumers.
- **Shocking.** Poultry meat must be under refrigeration for four to six hours before deboning to avoid toughening. **Texas A&M** researchers found they could eliminate this aging process if they sent pulses of electricity through the meat. The technology has been adopted in five major poultry processors in the United States and Brazil, saving an estimated \$5 million per plant.
- **Flavor favors.** Low-fat cheese has had a poor-taste reputation. **Utah State** researchers developed flavor enhancers that have helped reduced-fat cheeses capture nearly 25 percent of the \$1.1 billion cheese market.
- **Pizza perfection.** Nobody likes pizza cheese that runs, blisters, burns or turns to greasy oil when the oven gets hot. **Wisconsin** researchers developed a new method for making pizza cheese with optimal flavor texture and melting properties. Cheese plants in **Wisconsin** and **Puerto Rico** expect to use the method. The cheese is likely to be used in grilled sandwiches, frozen dinners and baked goods.



**Cooperative State Research, Education,
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